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# *The determinants of student loan take-up in the United Kingdom: another gaze*

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This paper makes a comparison and contrast with the work of Johnes (1994). A similar set of survey results are employed to identify the variables which influence undergraduates' decision to take out student loans. In general income factors are not found to be significant. There is evidence that being in debt is influential. This concurs with Johnes' findings, although in this research credit card debts are also found to be a significant influence. The results suggest that marital status has a significant effect on taking out a loan, but the direction of the effect opposes Johnes results.

## I. INTRODUCTION

'The introduction of the Student Loans Scheme was not met with the enthusiasm anticipated by the government. The anticipated number of applications for loans was 600,000. By December 1990 only 55,000 applications for loans had been received. This number had increased to 100,000 by February 1991, which was still well below the government's projected figure' (McGuire 1991 p.47).

The take-up rate for loans has been much slower than was anticipated by the Student Loan Company and the Department for Education. The take-up rate was 28% in 1990/91, 36% in 1991/92 and 44% in 1992/93 (Pilkington 1994). Johnes (1994) asserts that the 1992 *Survey of Outgoings and Incomes of Lancaster Students (SOILS)* returned a loan take-up rate of 38.6%. Other empirical studies focusing on personal funding have reported various take-up rates for student loans. The National Union of Students (NUS) (1992) *Student Finance Survey* reports a take-up rate of 26% which was close to the national rate. In a study of undergraduates at the University of Brighton, Sorensen and Winn (1993) reported a take-up rate of 29.7% in 1990/91 and 39.8% in 1991/92. The *Student Income and Expenditure Survey* 1992/3 reports that 35% of younger students who were interviewed had taken out a loan and 45% of older students (Windle 1993).

Johnes (1994) analyses survey data from the 1992 *Survey of Outgoings and Incomes of Lancaster Students (SOILS)* to investigate the determinants of student loan take-up in the United Kingdom. This paper seeks to analyse the determinants of loan take-up in another data set regarding students' personal finance. Through the adoption of a similar statistical modelling strategy it seeks to compare the findings with Johnes (1994).

## II. METHODS

The data which is analysed in this paper is taken from the results of a questionnaire survey of first year, full-time, first degree, home students studying at a new university. The first sweep of this survey sent questionnaires to 600 undergraduates in 1991/92. This group were chosen because full-time, home, first degree students are directly influenced by the change in policy brought about by *The Education (Students Loans) Act* (1990). At the time of the survey, first year students were particularly interesting as they were the only cohort of students that had come to university after the Act had been fully implemented. The survey was operationalized using stratified random sampling and was administered in the Easter vacation of 1992. There were 338 respondents to the survey (56%).

The second sweep of the survey was a replication which was carried out in the Easter vacation of 1993. There were 205 respondents in the second sweep which represents a response rate of 34%. The addition of the second sweep of data obviously has the desirable advantage of increasing the sample size. It also allows comparison between the two different year cohorts.

The questionnaire included a battery of demographic questions, along with detailed questions about students' sources of income. These questions collected data on a broad range of sources of income. These included the more obvious sources such as grants, loans, parental contributions, and part-time and vacation employment, as well as other sources of income such as savings, gifts, bursaries, scholarships and so on. The data analyzed in this paper is a subset of data collected in the two questionnaire surveys.

The Glim software<sup>1</sup> was employed to build Generalized Linear Models<sup>2</sup> The logistic regression model was utilized as it seemed to be the most appropriate form of model to apprehend the factors associated with whether a respondent took out a loan.<sup>3</sup>

### III. RESULTS

The proportion of students taking out loans did not alter between the two cohorts. In both years the take-up rate (28%) is lower than the national rate for each year, and the rate reported by the SOILS. The upward trend in take-up rates reported by Pilkington (1994) is not mirrored in this data. This might be due, in part at least to the survey only containing first year students. This supposition is consistent with the finding in Windle (1993) and Johnes (1994).

In earlier analysis (Gayle, 1994) it was concluded that other sources of income such as receiving money from partners and family (other than assessed parental contributions) are not influential factors. Less common sources of income, such as gifts, investments, bursaries, savings and money from the hardship fund were also not influential income factors. Participation in part-time employment during term time and paid employment during vacations were also insignificant factors (Gayle 1994). In the present analysis these income factors have therefore been ignored. The model of best fit was arrived at by forward selection.

The exploration of the data suggests that main sources of income such as grants and parental contributions do not affect a students' likelihood of taking out a loan. Having a credit card debt significantly affected a student's likelihood of taking out a loan. The marital status of a student also had a significant effect on their likelihood of taking out a loan.<sup>4</sup> The level of a student's overdraft also has a significant effect on taking out a loan.<sup>5</sup> There was no significant interaction effects between the explanatory variables or between the explanatory variables and the stratifying factors.

Moving on to estimating the effects of the variables in model having a credit card debt increases a student's likelihood of taking out a loan by 2.9835. Having a credit card debt was not found to be significant in the SOILS data set (Johnes 1994). The

level of credit card debt was not a significant factor. However, in the author's earlier work (Gayle 1994) it was reported that having an above average credit card debt increases the likelihood of taking out a loan by approximately two and a half times.

A student who is not single is 3.1833 times more likely than a colleague who is single to take out a loan. This concurs with the situation outlined in Gayle (1994) but sharply contrasts with Johnes (1994). He reports students who are married are less likely than others to take out a loan, presumably because they enjoy financial support from their partners.

Johnes (1994) reports a striking gender effect on the take-up rate for loans. He argues that this probably reflects the fact that, relative to men, women have lower lifetime earnings as a result of a number of issues, such as interrupted careers, shorter working hours, career choices and discrimination. The structure of the data set under consideration does not allow a direct analysis of the main effect of gender<sup>6</sup> however there was not a significant

Table 1. *Results of the logit analysis*

Explanatory variable	Coefficient	Change in deviance ( $\times 1$ df)	Bounds of 95% likelihood-based confidence interval
credit card debt	1.093	20.56	1.6877,0.4983
marital status	1.158	6.128	2.1176,0.1984
overdraft (value £10)	0.02800	30.87	0.0387,0.0173
Deviance	546.8		
Degrees of freedom	521		
Null deviance	643.87		
Degrees of freedom	542		

Note: Aitken *et al.* (1989) suggest that it is technically prudent to model stratifying variables. The sample was stratified across age (18-21, 22-24 & 25+), sex and subject area (faculties). The model of best fit is therefore 1+AGE+FAC+SEX+CRED+MAR+DEBT +AGE.FAC+AGE.SEX+FAC.SEX+AGE.FAC.SEX. In the glim notation age\*fac\*sex is fitted, which fits the main effects and the associated interaction effects. The inclusion of the age\*fac\*sex combination improved the model.

<sup>1</sup> See Aitken *et al.* (1989).

<sup>2</sup> As posited by Nelder and Wedderburn (1972).

<sup>3</sup> The log-linear model could have been used but would yield identical results. Probit models could equally have been used but logistic models are a little easier to interpret (Payne *et al.* 1994).

<sup>4</sup> In model M1 marital status is a binary variable. The base category is single. Those who are married or living together as a couple are in the same category. Those who are either divorced or separated, or widowed are also in this category. The number of students who are divorced or separated is quite small and the number that are widowed is very small. Diagnostic analysis was undertaken to estimate the effects of this grouping. When those who were married were disaggregated from those who were living together as a couple there was a very small difference in the overall goodness of fit of the two models ( $p=0.0039$ ), but an examination of the resulting parameter estimates suggests that they are roughly equivalent.

<sup>5</sup> The overdraft value variable has been divided into units of £10 which makes the effect of the variable more tractable.

<sup>6</sup> As previously stated age\*fac\*sex has been fitted to the null model to control for stratified sampling. The main effects of the sex variable cannot therefore be substantively assessed.

interaction effect between gender and marital status. Johnes (1994) arrived at the same conclusion which he asserts is surprising. This is quite important as it flags up the idea that there is neither an advantage nor, more importantly, a disadvantage with regard to gender and marital status. In terms of access to higher education this is an important point to note.

The size of a student's overdraft affects their likelihood of taking out a loan. The estimate reported is 0.028, which should be considered as the additive effect of a one unit change (*ceteris paribus*) in the overdraft variable on the log odds of taking out a loan. This is probably put into context more clearly when we consider that a student with an overdraft of £110 is (10 x 1.0284) just over ten times more likely to take out a loan than a colleague with an overdraft of £10.<sup>7</sup>

This finding concurs with the NUS (1992) reporting that the intention to take out a loan increases with a student's level of personal debt. The significance of a student's level of overdraft is also present in Johnes (1994) who asserts that the 'magnitude of any increase in a student's overdraft over the year tends to raise the probability that the student will take out a loan. This may be so for reasons of exigency. There is, however, a second plausible interpretation of this finding. This variable is likely to proxy the unobserved personal characteristics which determine the extent to which a respondent is willing to go into debt' (p.1003).

It might be the case that the overdraft variable is a proxy, and as this data is primarily concerned with sources of income rather than expenditure further analysis along these lines cannot be undertaken.

#### IV. CONCLUSION

The results of this analysis indicate some interesting features in students' financial experience. The analysis concurs with Johnes' (1994) finding by indicating that income factors are not significant determinants of take-up rates. Structural factors such as marital status are important, although an opposing inference is drawn in this paper. The importance of this is that both studies detect that marital status has an effect. This might be important when we consider issues regarding access and equality of opportunity.

The analysis has strongly indicated that debt is a significant influence on the decision to take out a loan. Arguably, this is a very worrying aspect of the student financial experience. The analysis is indicating that those with high levels of debt in the form of overdrafts are more likely to get into further debt in the form of a loan. Those with a credit card debt are also more likely to get further into debt in the form of a student loan. This situation

is particularly worrying as overdrafts, although subject to variations, are, like credit cards, expensive forms of credit. It is also worth noting that the data relates to students who are near the beginning of their academic careers. It appears from the data that resorting to credit early on is not an unusual feature of students' financial experience. Whether getting into debt and then taking out a loan is due to exigency or that the debt variables are a proxy for some hidden aspect of expenditure, the data suggests that for some students the resources available to them are not sufficient to meet their financial needs. I would argue that this is particularly worthy of concern from partners in higher education such as institutions, the NUS, parents, and also potential undergraduates.

A further caveat should be heeded on this topic. Since the data was collected the Chancellor in his 1993 Autumn Budget has reduced the level of grant and replaced it with an expanded loan entitlement.<sup>8</sup> Whilst it would be speculative to comment on the implications of this change in policy in terms of the student financial experience, the research presented alludes to a burgeoning use of credit by undergraduates. It is arguable that the recent change in policy will further embed this 'credit culture'. This is a legitimate area for both concern and further research.

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<sup>7</sup> The coefficient might appear to be large, but the mean overdraft is £142 with a standard deviation of £283.64.

<sup>8</sup> Budget Statement 30 November 1993. See *Parliamentary Debates (Hansard)*, Sixth Series, 233, p.931.

